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TWO-WINGED FLIES OF THE GENUS *DASIOPS* (DIPTERA: LONCHAEIDAE) ATTACKING FLOWERS OR FRUIT OF SPECIES OF *PASSIFLORA* (PASSION FRUIT, GRANADILLA, CURUBA, ETC.)

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Abstract.—Three species of *Dasiops* are known to attack the flowers or fruit pf *Passiflora* species in the Americas: *D.* **curubae,** n. sp. (Colombia; host, *Passiflora mollissima* [H.B.K.] L. H. Bailey, or related species), *D.* **inedulis,** n. sp. (Panamá; host, *Passiflora edulis* Sims), and *D. passifloris* McAlpine (Florida; host, *Passiflora suberosa* L.). The new species are described, and additional data concerning the terminalia of both sexes of *D. passifloris* are presented.

From data accompanying specimens received for determination it has become evident that certain species of the genus *Dasiops,* two-winged flies of the family Lonchaeidae, damage the flowers and fruit of species of *Passiflora,* the fruit of which are variously known as passion fruit, granadilla, curuba, etc., and are extensively grown for human consumption. One of the species of flies, *Dasiops passifloris* McAlpine, was described in 1964 from *Passiflora suberosa* L. (syn., *P. pallida* L.) in Dade County, Florida. Two other species are described here. The three species constitute a group in that they are the only known species of *Dasiops* so far known to possess ovipositors with serrated tips. It is likely that other species of *Dasiops* will be found to damage this large genus of plants. Little is known concerning details of the biology of these insects. The new species are described at this time to provide names for reference to them in studies on their control.

Dasiops curubae Steyskal, New Species
Fig. 1

Female.—Length of wing 5.1 to 5.5 mm. Color generally blackish with blue tinge. Hairs of thoracic dorsum and front dense and about as long as 3rd antennal segment. Front parallel sided, 0.39 of head width, and as wide as length from anterior ocellus to base of antennae; surface subshining, with a few setigerous punctures anteriorly, somewhat depressed before ocellar triangle, and with 2 or 3 pairs of coarse grooves radiating from midanterior margin. Eye sparsely short haired. Lunule, face, and parafacial lightly tomentose. Upper margin of lunule, except near meson, shining. Shortest distance between eye and oral margin slightly more than width of 3rd antennal segment and 0.22 of eye height. Bristles and hairs of cheek strong, about 3 anterior bristles turned upward. Arista distinctly pubescent to tip; base blackish, gradually slightly thickened.

Poststigmatal setae 2 or 3, not accompanied by fine hairs. Propleural and stigmatal setae 1 each. Mesopleuron with 4 to 6 strong anterodorsal and 6 to 8 strong posterior bristles. Prosternum bare. Wing hyaline, slightly smoky yellowish; calypters and fringe pale yellowish. Tarsi with basitarsus and about ½ of 2nd segment yellowish.

Abdomen shining, lightly tomentose. Posterior setae of last preabdominal tergum and of ovipositor sheath uniform and in even series. Ovipositor as in Fig. 1C, total length 2.65 mm, expanded at base to 2.4× greatest width of tip (from microscope slide preparation).

Male.—Length of wing 5.55 to 5.70 mm; front 0.29 to 0.32 of head width. Postabdomen as in Figs. 1A, 1B; epandrium (e) globular; surstylus (s) roughly triangular, with 3 small, stout, yellowish curved setae near apex of inner side. Otherwise similar to female.

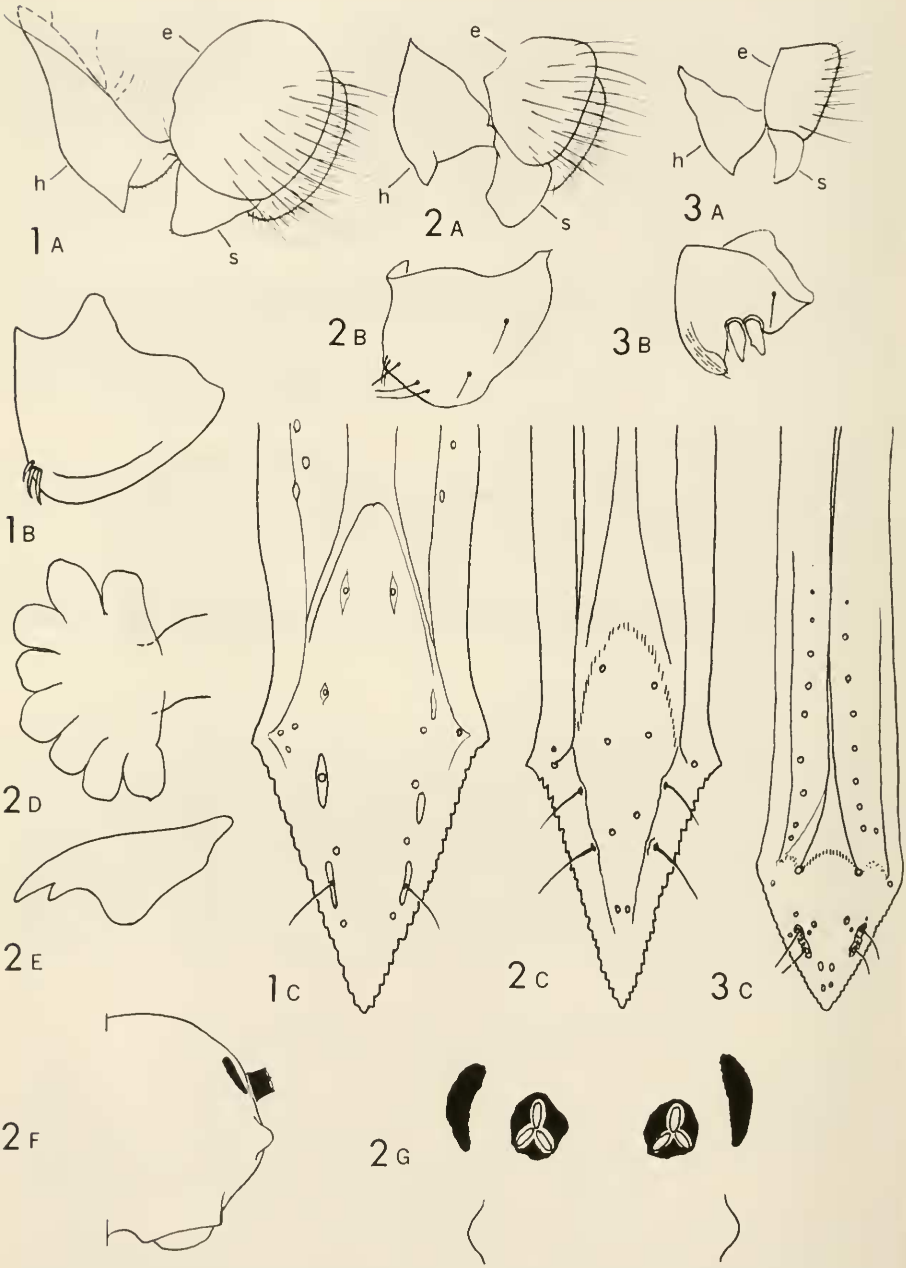
Types.—Holotype (♀), allotype (♂), 3 ♀ and 2 ♂ paratypes, Colombia, Cundinamarca, San Bernardo, 1–4 March 1976 (A. López A.), from flower of "curuba" (*Passiflora mollissima* (H.B.K.) L. H. Bailey, or related species); type no. 75496 in U.S. National Museum of Natural History.

The name of the species is taken from the Colombian vernacular name of its host fruit "curuba" treated as Latin in the genitive case. According to Lorenzo Uribe Uribe (1972), plants of the group with tubular base to the flowers are called "curubos" and their fruits, especially those of *Passiflora mollissima*, "curubas."

Dasiops inedulis Steyskal, NEW SPECIES

Fig. 2

Female.—Length of wing 2.9 to 3.5 mm. General color bright metallic dark blue. Hairs of thoracic dorsum and front about ½ as long as 3rd antennal segment. Front parallel sided, 0.33 to 0.35 of head width, and slightly longer from anterior ocellus to antennal bases than width; surface subshining, slightly rugulose, and with sparse setigerous punctures; slightly depressed a little before ocellar triangle and anterior thereto gently convex and with shallow median longitudinal groove. Eye sparsely short haired. Lunule, face, and parafacial very lightly tomentose; interantennal space and



Figs. 1A–1C. *Dasiops curubae*. Figs. 2A–2G, *D. inedulis*. Figs. 3A–3C, *D. passifloris*. A, Left profile of male terminalia (=postabdomen). B, Inner and somewhat anterior view of right surstylus in microslide preparation. C, Apical part of ovipositor, ventral view. D, Anterior lunule black, lower face blue; margin of lunule, especially laterally, shining. Shortest distance between eye and oral margin about 1.25× width of 3rd antennal segment and 0.18 to 0.20 of eye height. Bristles of cheek neither numerous nor long, 1 or 2 near anterior edge turned upward. Arista short pubescent; base brownish, slightly thickened.

Poststigmatal setae 1 or 2, not accompanied by fine hairs; propleural and stigmatal setae 1 each; mesopleuron with 2 or 3 anterodorsal and 2 to 4 posterior stronger setae. Prosternum bare. Wing hyaline, a little creamy yellowish toward base; calypters and fringe yellowish to nearly white. Tarsi with basitarsus and most of 2nd segment yellowish.

Abdomen shining, with very little tomentum. Posterior setae of last abdomen tergum and ovipositor sheath uniform and in even series. Ovipositor as in Fig. 2C, total length 1.27 mm, expanded at base to about twice greatest width of tip (from microscope slide preparation).

Male.—Length of wing 3.6 to 4.1 mm; front 0.3 of head width. Postabdomen as in Figs. 2A, 2B; epandrium (e) ovate; surstylus (s) roughly trapezoidal, on inner side with about 5 anteroapical setae and 2 similar widely separated setae near posterior edge.

Types.—Holotype (♀), allotype (♂), 1 ♀ and 3 ♂ paratypes, Panamá, Chiriquí, David, 24 March 1977 (K. S. Hagen), sweeping *Passiflora edulis* Sims; type no. 75497 in U.S. National Museum of Natural History.

I am grateful to J. F. McAlpine for informing me that *Dasiops brevicornis* (Williston), described from St. Vincent, West Indies, may be conspecific with *D. inedulis*. However, in view of the considerable geographic separation it seems advisable to consider it likely that *D. brevicornis* is distinct until more detailed information concerning it is available.

The species name is intended to recall its association with ("in") the plant species *Passiflora edulis* as well as to indicate that it is, for humans, inedible. The name is a Latin adjective.

Three specimens of larvae from somewhere in the province of Chiriquí in March 1977, further details of the capture of which are not known, were also submitted and may be the larvae of *D. inedulis*. They are at least referable to the genus *Dasiops* because of the blackish markings alongside the posterior stigmatophores. The larvae are creamy colored, 6.4, 5.5, and 3.6 mm long, respectively, with posterior end as in Figs. 2F, 2G, mouthhook as in Fig. 2E, and anterior spiracle as in Fig. 2D. *Dasiops inedulis* is stated by Panamanian workers to be a serious pest of purple granadilla, *Passiflora edulis* Sims.

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larval spiracle. E, Larval mouthhook. F, Left profile of posterior part of larva. G, Posterior view of posterior stigmatophores and surrounding area of larva. Similar parts are drawn to the same scale. Abbreviations: e = epandrium; h = hypandrium; s = surstylus.

Dasiops passifloris McAlpine, 1964: 691.
Fig. 3

This species is apparently closely related to the foregoing species and additional data concerning male and female terminalia are here brought forth to facilitate comparison. The remarks made by McApline concerning the relationships of *D. passifloris* apply also to the two new species. All three species have yellowish basitarsi, whitish or yellowish calypters and fringes, plain hyaline wings, short pubescent arista, and ovipositors with serrate tips. Little besides size, small color differences, and characters of the male and female terminalia (postabdomen and ovipositors) distinguish the three species.

McApline did not figure the ovipositor tip of *D. passifloris* and stated in the description only that the tip is "equilaterally triangular, with very sharp point; sides with 2 to 3 tiny hairs about middle of exposed portion." Paratypical material and some from Hialeah, Florida reared by Rowan and Stegmaier from fruit of *Passiflora pallida*, now considered a synonym of *P. suberosa* L., have enabled me to prepare Fig. 3. The total length of the ovipositor (Fig. 3C) is 1.40 mm; it is a little more than twice as broad at the base as the greatest width of the tip and the sides are serrated with 20 to 24 minute, somewhat irregular teeth. The male terminalia are shown in Figs. 3A, 3B; the epandrium (e) is narrow and quadrate in profile and the surstylus (s) bears a pair of adjacent teeth, of which the mesal one is furnished with a small preapical point on the side next its neighbor.

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